The need to allow rear-leg implantable RF-ID in Dairy Cattle

Steve Eicker

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The proposed rules for the US NAIS require an RF-ID ear tag with a visible animal identification. (Part III A. Cattle). I believe that RF-ID is a necessary component of the trace-back system. However, requiring the tag in the ear places a huge burden on the industry, and likely hampers the functionality of the entire animal identification industry. The regulations should be amended to also accept implanted RF-ID under the skin near the hock.

Questions:

1. How accurately can the ear tags be read by stationary readers?
2. How well can ear tags be read by hand-held readers?

How accurately can the ear tags be read by stationary readers?

This is an unknown as of this writing. The Cattle Working Group was never able to find a single piece of objective data that measured the identification accuracy of ear tags being read by stationary readers. On-farm experience with current technology is dismal. The magnitude of the read errors is multiplied when an error occurs if there is a change that the following animal is affected by the error on the previous animal.

The orientation of the ear and a round tag appears to make either an excellent signal or a very poor signal.

How well can ear tags be read by hand-held readers?

Unfortunately, in our experience with commercial dairies, even using hand-held readers leaves much to be desired. In traditional lock-up stanchions, if a cow backs away from the person with the RF-ID wand, the ear is sometimes pressed against the metal frame, rendering the readers useless.

If the cows are laying in free-stalls, the ear is not accessible to the RF-ID readers.

More important is that the vast majority of activities involving dairy cattle are performed from the rear of the cow. The ear is simply not accessible regardless of wand length.

Discussion:

There are significant advantages to a commercial dairy in accurately identifying their cattle for management activities. These activities include:

Veterinary examination

Milk measurement
Physical inventory
Scheduled injections

As mentioned, all these activities occur from the rear of the animal. Every one of our clients has agreed to pay the entire cow of the tags, the readers, and the software without government assistance or requirement. However, those using rear-leg implants have far more success with readability.

Because of the vertical orientation of the hock, it is likely that the read accuracy of the implants is far superior to the ear with regard to stationary readers. However, no data have yet been collected to verify this statement.

Of course, if beef cattle have ear tags, but dairy cattle have leg implants, each slaughter plant will need dual antennas. I believe that this is a minor expense if dairy farms will self-fund the remainder of the RF-ID tags.

Conclusions:

The current proposed requirement for a visible RF-ID tag in the ear is premature. It certainly places a huge burden on the dairy industry.

Proposed Plan